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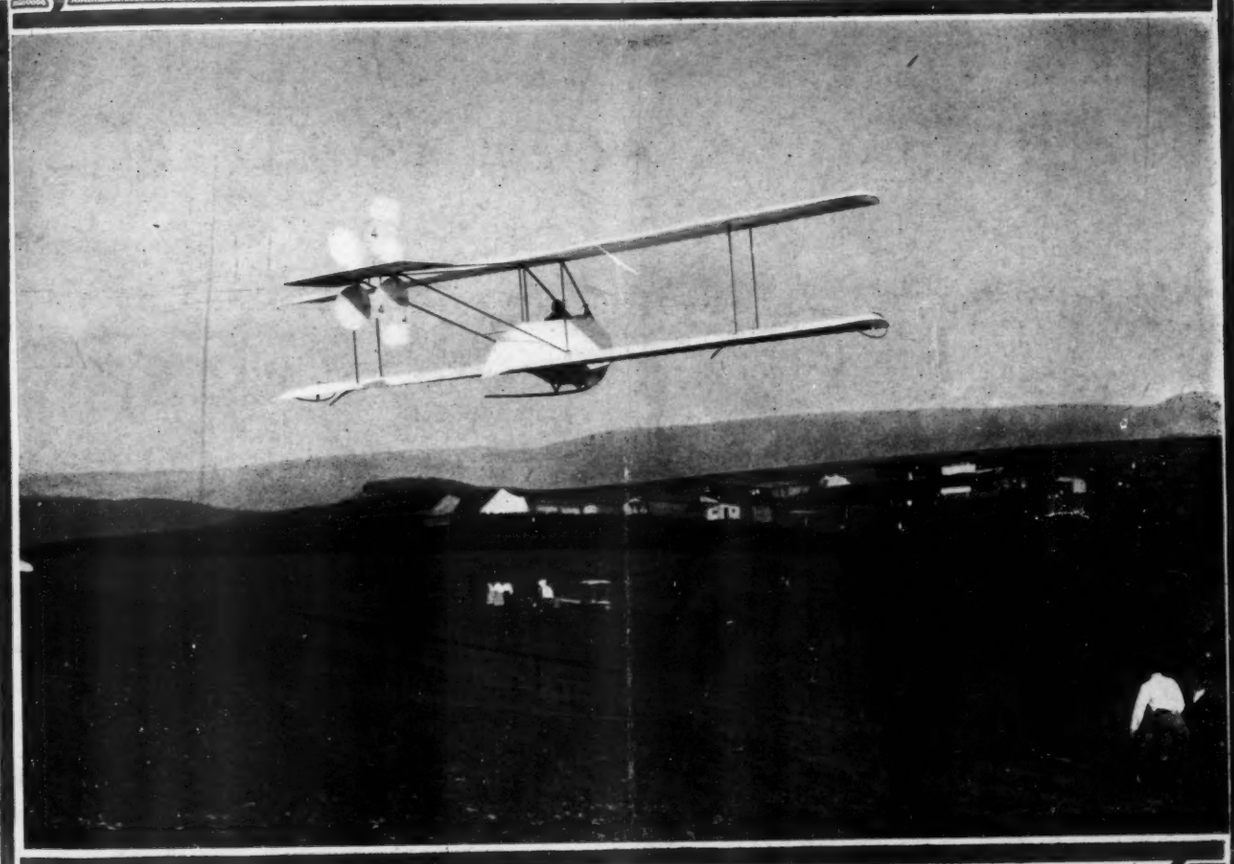

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VOLUME XIII

Number 22

SPECIAL FEATURES

THE MASSACHUSETTS AIR LAW

THE HARTFORD AVIATION MEET

THREE GLIDING MEETS IN EUROPE

THE GARDNER, MOFFAT CO., INC.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

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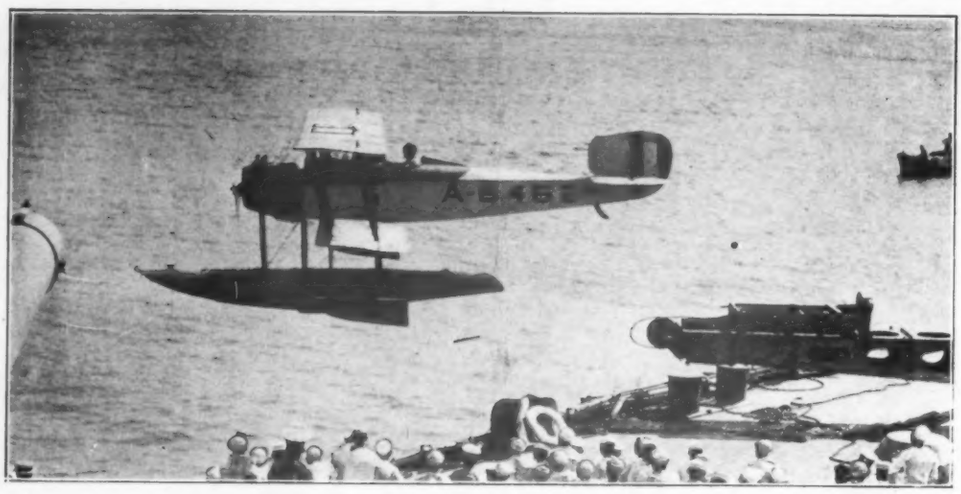

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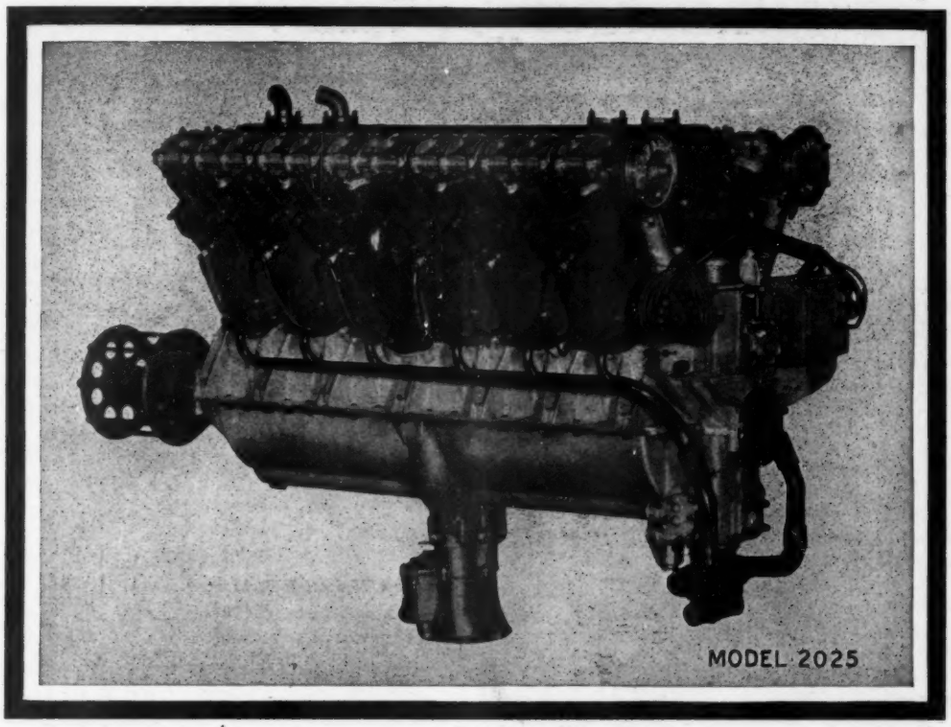

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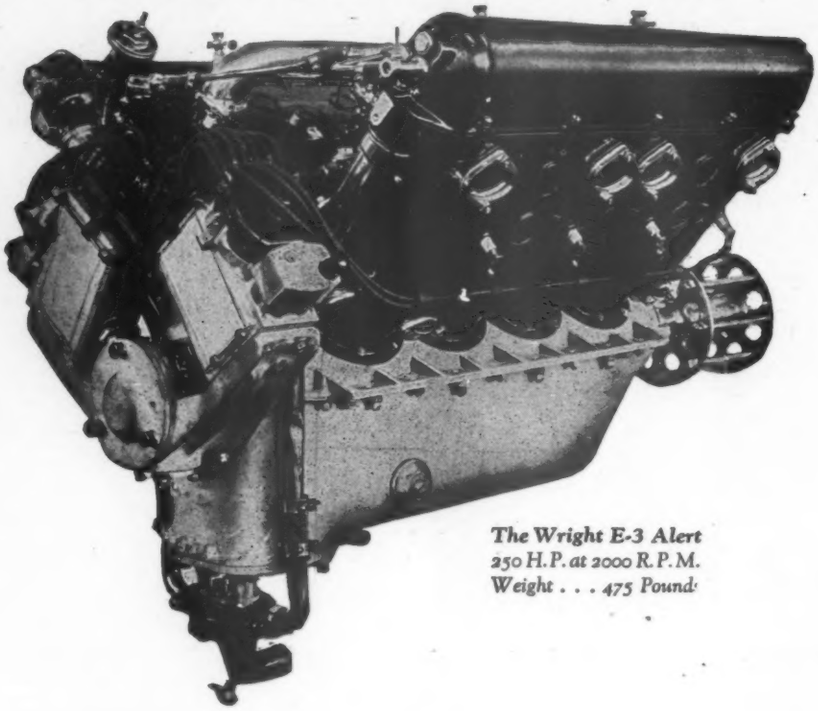

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NOVEMBER 27, 1922

AVIATION

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Vol. XIII NOVEMBER 27, 1922 No. 22

America's Advance in Aeronautics

TRAVELLERS returning from Europe and foreign aeronautical magazines alike furnish sufficient evidence that Europe is not taking America's recent advance in aeronautics with equanimity. As long as we only possessed the world's altitude record, there seemed to be little competition to beat this performance. But now that American pilots have successively established new world's maximum speed, circuit speed, maximum duration and maximum distance records—even though two of these performances were not officially observed according to F.A.I. rules—the foreign aeronautical press addresses exhortations to its national airplane constructors, aeronautical associations and government officials to leave nothing undone with a view to reconquering the lost laurels.

This state of affairs, while highly complimentary to our industry, should not make us slumber on our records. Progress in aviation never ceases, and primacy can only be achieved and retained by unceasing development work.

There is, incidentally, one competition in which we should like to see American aircraft entered next year, and that is the Schneider Maritime Aviation Cup race which will be held in England next summer. The United States has been an absentee from this international contest since before the Great War. During the past two years we have repeatedly urged American participation in this important event.

From the international viewpoint the Schneider Cup races are as important in the field of seaplane construction as the Gordon Bennett and Deutsch Cup races were, and the Pulitzer Trophy race now is, in the matter of land planes. As the annual contests for the Schneider Cup are generally held sometime in August, there is plenty of time left to our manufacturers for preparing the plans for challengers. Perhaps, as we have before suggested, the Navy could be prevailed upon to place orders for such machines, and enter them in the Schneider race, the same as it did in the last Pulitzer race. High speed is as important in naval pursuit work as it is in land pursuit work. If we compare the performances of this year's Schneider Cup and Curtiss Trophy races, we are struck by the fact that while the winner of the former averaged 145 m.p.h., the winner of the latter was some 25 miles slower. In justice to the Navy TS1 plane it must be said that it was equipped only with a 220 hp. engine as against a 450 hp. powerplant of the Supermarine which won the Schneider Cup. This makes a fair comparison of the two performances difficult, but it does not invalidate the fact that the British navy has available for conversion into a pursuit plane a racer which is 25 miles faster than the present type of fighting plane of our navy. This fact alone should act as an incentive to those concerned with our national defense to have America worthily represented at the forthcoming Schneider Cup race.

Improved Competitions for Improved Airplanes

WINTER, with its unavoidable curtailment of flying activities in the nothern latitudes, is the time when those concerned with the advancement of aviation should take counsel in view of the events to be staged the coming year.

Reviewing the situation, it is curious to note that from the early days of aviation to this date, barring very few cases, every airplane contest has been a speed event without limitations. The ever increasing performances which have been achieved from year to year have mainly been the result of an accumulation of horsepower. It seems that the time has come when a halt should be called to this extravagant policy and the regulations be so drawn up as to foster real efficiency in airplane design. This can only be achieved by limiting one or more factors which make up the characteristics of an airplane.

Opinions vary as to which of these factors should be held within limits. There have been competitions in which complicated formulas were resorted to in order to foster efficiency, but none of them proved really satisfactory. Arbitrary limitations of horsepower, or of gross weight, or of maximum speed, are never entirely satisfactory in that they eliminate from the start machines which it would be interesting to see compete. In our opinion the first limitation should be put on landing speed, for this makes for safety and so interests military and civil aviation alike. But considering the difficulty of correctly determining the landing speed, we believe that this limitation could best be expressed by limiting the wing loading, as this influences the gliding angle, and hence to a large extent the landing speed. The second limitation we should like to see embodied in next year's airplane contests is a power loading limit. Such a restriction would be beneficial in three ways: first, it would afford a true criterion of airplane efficiency in that improved performance could only be achieved through refinements in design, instead of by the help of brute engine power; second, it would permit of having airplanes of different characteristics (say two-seaters of from 60 to 200 hp.) compete on fairly even terms; and third, it would prevent the practice of "faking" in contests the normal performance of a ship by flying it close to the stalling angle for the purpose of carrying the greatest possible useful load where a premium is put on this characteristic. Such a practice is not only very risky in case of engine failure; it also vitiates the purpose of "pay load" contests.

Obviously, for reasons of expediency, limits of wing loading and of power loading should not be made too severe in the beginning, else this might discourage contestants. But a start *should* be made along this line of thought, for limitation of some basic factors alone will lead us to improved efficiency in airplane design.

Three European Gliding Meets

What we can Learn from the Principal Competitions Held During the Summer

By Edmund T. Allen

Now the third gliding meet of the summer is over, we may take breath and ask ourselves what it is all about. All our pet theories on the building of gliders have been rudely mauled. Some of them have stood it. Some of them have not. After Clermont-Ferrand we had all decided that the first requisite of a good glider was an unbreakable landing gear. After the Wasserkuppe we knew that a good gliding angle was the one and only requirement. When we walked down Itford Hill after the end of the British meet, we said that anything having good controls could soar.

The Question of Suitable Ground

Of course the terrain was the real difference. The fiasco at Combegrasse was not due to French stupidity, as the Germans said. It was due to the lack of rising currents, or at least any decent area of them where one could soar. On the other hand the success at the Wasserkuppe was not due to the fact that Germany possesses the one and only soaring terrain in the world, as the French press loudly proclaimed. The results at Itford disprove that.

When one gets the three meets in a little perspective, it is clear that the success or failure of gliding competitions depends on three factors. These are, in the order of their importance, terrain, gliders, and pilots. A fourth may be added; the organization of the meet.

By all the theories of meterology, Itford Hill under the wind which prevailed during the whole of the meet should have been the worst place of the three for soaring. It is situated at the extreme southern end of England, which usually gets all the south breeze from the Channel. The south side of the ridge is ideal for soaring, even though it is but 200 ft. high. But during the entire meet the wind unexpectedly blew from the north. Starting from the North Downs in Kent the wind came down hill with a downward component until it struck this little pimple on the southern coast. In front of this small elevation the soaring had to take place. But here, as in other ways, the English meet gave experts a surprise. The area of rising current, though limited, proved unexpectedly good.

At the Wasserkuppe when the wind blows from the west, which is rather seldom, there is an area of rising current about half a mile long and a quarter of a mile wide. The air rises here at an average rate of one meter per second. It is a very exceptional machine which has a sinking speed of less than a meter per second. Consequently only a very good machine can remain up.

Although it is true that the Wasserkuppe is much better than the French terrain (no terrain could be worse) we must not discount the German preeminence on that account. Most of the best machines at the Combegrasse had a sinking speed of about one and a half meters per second. They would therefore have settled to the ground even at the Wasserkuppe. It does not, however, follow that the German machines could have soared even at the Combegrasse. The Puy de Combegrasse itself is an extinct volcano. So are its surrounding hills. Their cone shaped sides split and divide the wind, rather than force it upward. Except under unusual circumstances a flight of five minutes was impossible here.

At Itford almost any controllable machine could soar if piloted with sufficient skill to keep it in the narrow upstream. At the Wasserkuppe only extraordinarly good machines could soar, but no great skill was required to stay in the large areas of rising current. At the Combegrasse no machine could soar no matter how skillfully piloted.

The Machines

Now as to machines. The French had two years of Germany's experience to go on. They utterly disregarded it, partly from national prejudice, partly from an erroneous idea that there was nothing to soaring. As a result most of the effort in preparing machines for the Combegrasse meet went in the wrong direction, in two ways. First, everyone made the mistake which the Germans had made two years before, of building for lightness only. Second, the prevailing type of machine entering the French meet was a motorless sport plane instead of a true glider.

In Germany all the machines were of the true glider class. This does not mean that they were all alike. But they were all especially designed for soaring. Most of their designers had been at the meets of 1920 and 1921. In the 1922 machines the mistakes of the past two years had been practically eliminated. In the first place, they knew what to build for. On this point all other nations are still somewhat shaky. In the second place they had solved the problem of control. Their remarkable results were inevitable.

In England there were no motorless sport planes. This was due partly to the fact that none of the aircraft manufacturers were interested in gliding, and partly to the very short notice that was given to contestants. There were some freaks, of course, such as the first gliding meet in any country unfortunately always attracts. In England as in Germany most of the machines were specially designed for gliding by competent designers. Unfortunately only two of them had good control, and these were far from being the best in gliding angle. It was clear that England had learned from the two earlier meets. But it was equally clear that English glider designers still lacked actual experience.

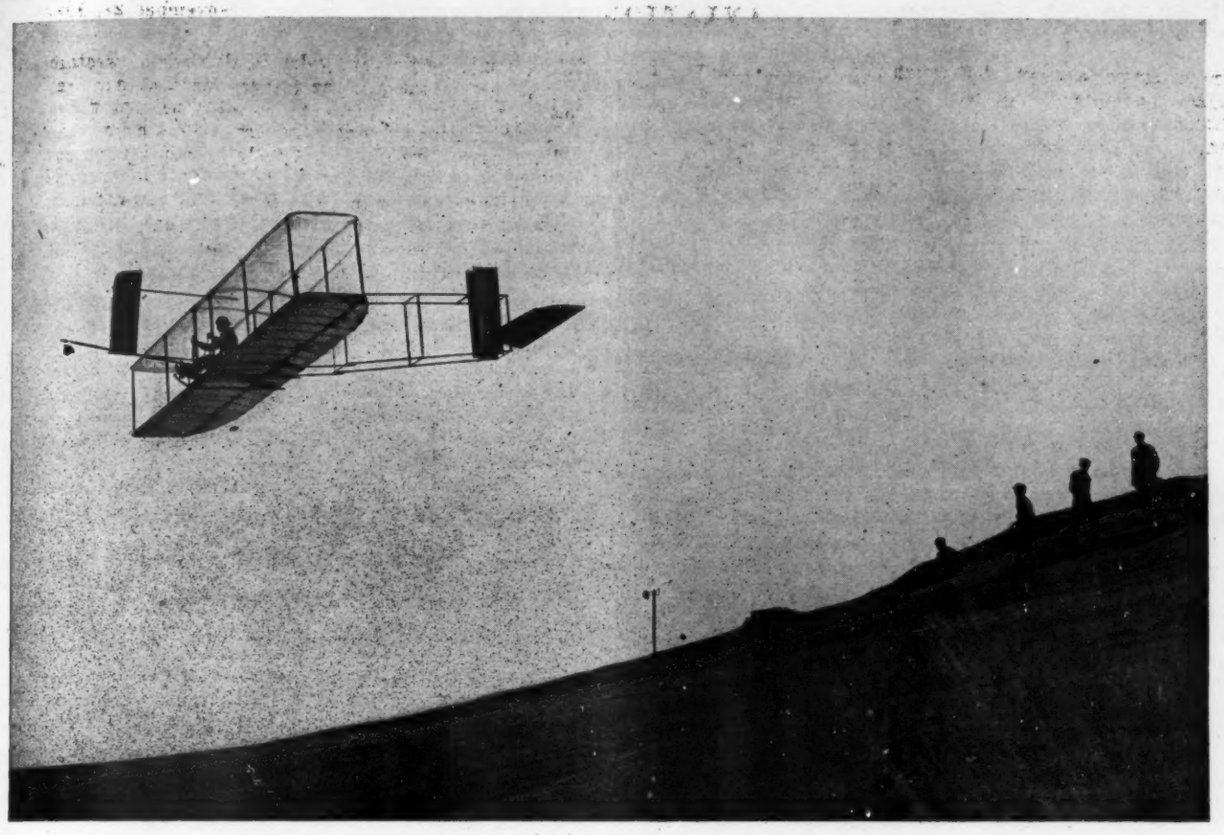
The Piloting of Gliders

It is difficult to compare glider piloting empirically. That it is almost the vital point of soaring no one can doubt. No machine can do well if it has a pilot who is unadapted to soaring flight. On the other hand, of course, the best glider pilot in the world cannot make a "dud" machine soar. Soaring requires a peculiar factor of adaptability similar to that required for test piloting. In fact an amazingly large proportion of successful glider pilots have been test pilots. If a pilot can climb out of a bomber into a scout, and fly both equally well, he can also climb out of his scout into a glider. The best machine at the English meet made a foolish performance and finally smashed because the pilot could not adapt himself to the new way of flying. The complaint about 'no control' which designers were perpetually hearing from their pilots was only in part justified. To a large extent the trouble was that glider controls have a different feel from those of motored machines. At the same meet this was strikingly illustrated. A certain designer who was also an experienced glider pilot made a beautiful performance in his little warping wing machine. When the bombing pilot who was entering that glider in the meet flew it, he came down and reported his machine entirely out of control.

Glider piloting is not difficult; it is delicate, and it is often rudely done.

At all three meets the pilots were featured even more prominently than the designers. The names of the best pilots in France appeared on the program at Clermont-Ferrand. This was equally true in England. And on the Wasserkuppe the pilots were practically all scout pilots of war machines. Many of them had been in the squadron of Baron von Richthofen.

It is clear from these three meets that glider piloting is an art as distinct from motor piloting, just as glider construction is distinct from motored plane construction. Not all good motor pilots can become glider pilots. Of those who can, some seem to get the knack from the first take-off, and some only after practise. But a word of advice may be given to all prospective entrants in future American meets; affording the pilot some opportunity of preliminary soaring is the only way of insuring flights that will do justice to the machine.



An historic gliding flight: Orville Wright hovering in a glider near Kitty Hawk, N. C., Nov. 15, 1911

Organization of the Meets

Now as to the organization of the meets. The French meet was well organized. They made some mistakes, of a kind very instructive to those responsible for future meets. But they offered also some admirable examples to copy. They began early. Plenty of warning was given to prospective entrants. The rules, while somewhat misdirected, were clearly defined and well thought out. The organizers got behind them the chief aeronautical, commercial, sporting, and military interests of France. They provided living accommodations and hangar space free for all contestants. They took adequate care of the press. Above all there was the atmosphere of characteristic French courtesy and hospitality, and keen public interest, which gave the meet an excellent morale. The only serious fault in organization not directly due to the unfortunate choice of terrain was the failure to provide adequate facilities for hauling the machines up the hill. Otherwise, the officials of the Premier Congrès d'Aviation sans Moteur deserve the highest commendation.

The German meet had an entirely different atmosphere, one of poverty and scientific research rather than of sport with lavish backing. Its accommodations were those of a rude but permanent research station rather than of an excellent temporary camp. The distribution of the prizes was such as to encourage development rather than to call out spectacular single performances. One machine which was built of inexpensive bits of wood and metal was carted to the Wasserkuppe twenty miles on a hand pushed cart. It was disqualified by the committee on safety, but it put up an excellent and consistent day-by-day performance. The judges had such discretionary powers that they were able to give this machine a special prize sufficient to enable its designer to build a machine of better materials for the next meet.

The *Daily Mail* Competition had as its main fault too short a notice for its competitors. Allowing for the haste, everything was done surprisingly well. Sixteen machines arrived at the meet, and ten of them flew. But the haste was evidenced in their faults which a few more months of work would have eliminated.

While we are not ready to lay down any final conclusions on the subject of gliding, it is desirable to point out certain aspects of the conditions and performances of the 1922 meets which should be borne in mind in the 1923 gliding meets in the United States. These may be summarized as follows.

Some Suggestions

The choice of terrain is the first condition of a successful meet. The French terrain was hopelessly bad. The German terrain was the best adapted to steady and consistent performance. The English terrain was almost too good, permitting as it did spectacular performances on second rate gliders. It is suggested that a model of the terrain chosen be tested in a wind tunnel with smoke stream. Failing this, the terrain should at least be carefully inspected by glider pilots assisted by a meteorologist.

The tremendous expenditure and energy which is wasted in constructing freak machines and in repeating old mistakes of design might be saved by a preliminary campaign of education. All prospective designers of gliders should be urged to acquaint themselves thoroughly with the models and records of the 1920, 21 and 22 German meets, the French Congrès, and the *Daily Mail* Competition. They should further be urged to complete their machines in time for preliminary tests before shipment, and to have a week or so of preliminary flights on the chosen terrain before the meet begins.

This last suggestion would have the additional merit of discovering and developing glider pilots. The meets so far have had to serve as a training ground for pilots, real accomplishment coming only in the closing days.

A final word to the designer. Let us remember that the first requisite of a glider is a minimum sinking speed, which

does not mean minimum weight, but which is largely a matter of high *L/D*. The second requirement is good controls or maneuverability.

Those who are responsible for organizing the meet should realize that the distribution of the prize money will direct the whole performance. A large number of prizes will attract more machines and call out more varied and consistent performances than one or two spectacular sums. If the judges are well chosen there might well be some discretionary prizes to meet special circumstances. There is nothing more disheartening to a man than to put up a good performance and lose out on the prizes through some technicality. I would further suggest that both totalization and duration of flight have ceased to have real aeronautical interest. It is now an established fact that given a good terrain a fair wind and a decently controllable glider any skilful glider pilot can go up after breakfast and stay until dark. Long duration flights still of course have great sporting interest. But it would be well if prizes can direct the effort toward the still unsolved problems, such as soaring over level ground and hopping from one area of rising current to another. Prizes offered for distance flying would encourage many new and interesting developments. Prizes for maximum ceiling would also tend to a real discrimination between good and bad machines.

To my own knowledge arrangements are already under way for two gliding meets in the United States. I do not know how many more organizations may have other gliding meets up their sleeves. If we are to put up creditable performances either from the point of view of international sport or of aeronautical research, we must learn from the mistakes and successes of other nations. Every American interested in the American gliding meets of 1923 would do well to study the three European meets of 1922.

Safety First in the Air

In connection with the nation-wide "Safety-First" movement now under way throughout the country, the National Aeronautic Association of U.S.A. calls attention to the importance of taking measures for safety in flying. For flying, properly controlled and regulated, is one of the safest methods of transportation now in public operation.

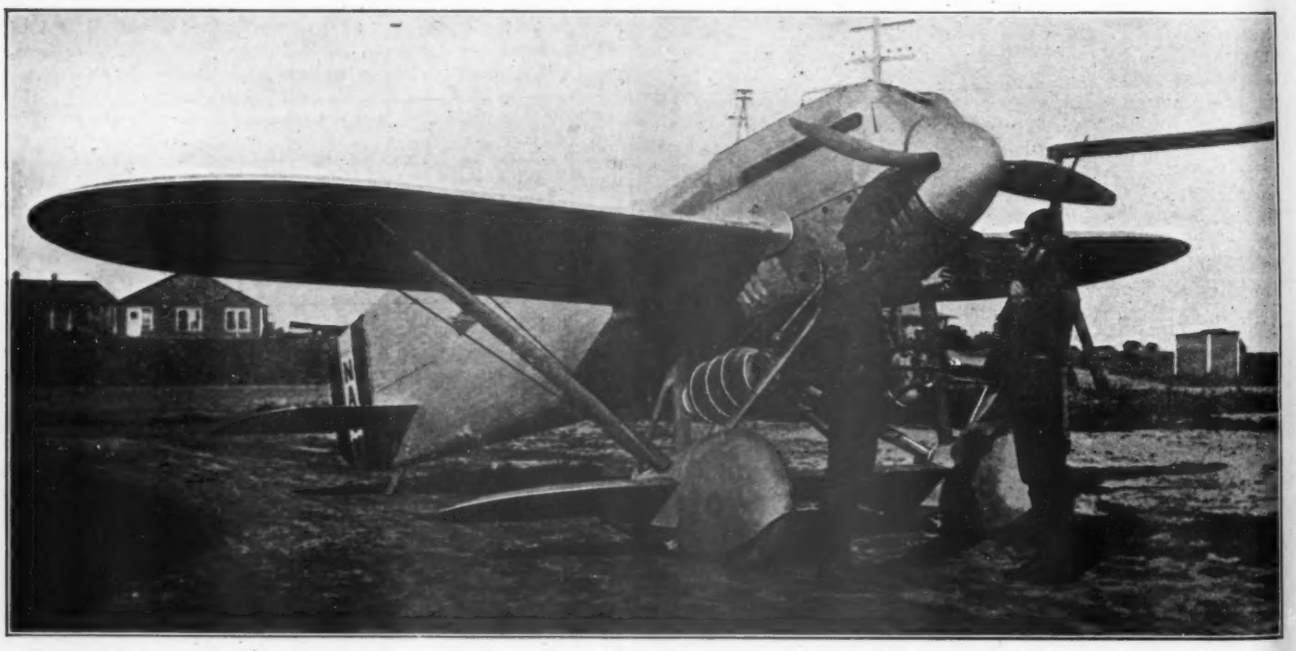
As evidence of this fact Col. Paul Henderson, Assistant Postmaster General, in charge of the Air Mail, states that in the last fifteen months, flying every day in all kinds of weather, with twenty planes in the air, the transcontinental Air Mail Service has carried out 95 per cent of all scheduled flights without a single fatality or serious mishap. This means that the mail fliers have covered over 2,000,000 miles in flight, speeding up the delivery of millions of letters between the Atlantic and Pacific coasts with the regularity of railway mail, and, notwithstanding the difficulties of crossing the great continental mountain range in snow and rain and fog, have carried out their work with safety and dispatch.

This record means only one thing; that careful regulations respecting the condition of the equipment and the rules of flight are essential to safe air navigation. And where such regulations are observed safety is assured.

Col. Benjamin F. Castle, treasurer of the National Aeronautic Association, and formerly an Air Service officer, speaking from the standpoint of a flier and one conversant with all phases of aeronautical development in this country, stated in Washington that: "Safety in flight does not depend on the reduction of present landing speed, nor the development of some extraordinary safety device to be attached to aircraft. It rather depends on commonsense, like any other activity employing mechanical equipment, such as railroading, ocean travel, or the common every day elevator.

"Look at the record made at the recent Detroit air meet. Aside from those planes which were flown from all over the country to Detroit, the contestants in the various races flew over 200,000 miles at top speed, attaining an average speed of over 170 m.p.h., and not a single person, pilot or passenger was even jarred. This result was the outcome of proper regulation; haphazard operations, at Detroit, would have brought forth a deplorable casualty list."

Colonel Castle further stated that all persons intending to take passage on aircraft should patronize only responsible companies, should avoid "stunt" flying, and assure themselves that they are in the hands of persons familiar, not only with piloting, but also with the maintenance and upkeep of aircraft, and possessed of the proper facilities for housing and caring for all flying equipment. In the absence of governmental regulation and law making such safeguards necessary, the individual must satisfy himself of the responsibility and reliability of the operating company. To do otherwise is to contribute to dangerous aeronautical practices. Without patronage, the "gypsy" flier and the "stunt" performer will have, perforce, to close out.



(c) Underwood & Underwood

The Navy-Wright "Mystery" (650 hp. Wright T2 engine) which the Navy entered in the Pulitzer Trophy race at Detroit, Oct. 14, 1922—The large size of this racer may be gaged by comparison with the two men standing in front of the ship

The New Massachusetts Aircraft Law

By E. P. Warner

Professor of Aerodynamics, Massachusetts Institute of Technology

Massachusetts, like many other states, enacted very early in the history of flying an aircraft law which has become substantially a dead letter. In 1911 the legislature passed a statute requiring the registration of airplanes and the licensing of pilots and prescribed at considerable length the kind of flying that could and could not be done. Some of its provisions were absolutely impossible to fulfill, some of them referred to bodies and offices which have since ceased to exist, and none of them were very seriously enforced before the war.

The law was amended once or twice in details and after the war some attempt was made to put it into effect. The registrar of motor vehicles, charged with the care of aerial vehicles as well as those which cling to the surface, appointed an unofficial advisory board, the members of which undertook without compensation to inspect aircraft and examine pilots as to their qualifications. A number of airplanes were registered and pilots licensed, but a number of others continued to fly without bothering with the legal requirements. No really strenuous effort was made to enforce the law and there were no prosecutions for failure to register.

During the last year, in view of the delay in enacting any measures of federal regulation and of the adverse public sentiment resulting from accidents, those working for aeronautics in Massachusetts felt it advisable to amend the law, bring it up to date, and assist in its enforcement. The re-drafting of the statute was therefore undertaken by a group of former pilots and others interested in flying, particularly in its commercial aspects. Before explaining the statute in detail, it should be emphasized that all those concerned in its drafting and passage were and are agreed on the necessity of federal regulation of aircraft, and those who had the most active share are unanimous in the opinion that federal regulation should supersede that carried out by the state except insofar as the several states may continue to act under the police power to regulate flying over cities, etc. That function will almost inevitably remain to some extent in the hands of local authorities. Since there is no federal regulation, however, sane state regulation framed in such a way as not to interfere with proper flying, intra-state or inter-state, is better than no regulation at all, and those who drafted the Massachusetts law feel confident that its enactment will prove to have been beneficial to aeronautics.

Licensing of Pilots

The law, officially designated as Chapter 534 of the Acts of the Massachusetts General Court 1922, calls first of all for the licensing of pilots and the registration of aircraft. It is provided that the registrar of motor vehicles shall appoint an advisory board of aeronautical experts, the board consisting of at least three members. The board is to determine the competency of pilots and the fitness of aircraft, and it is required that the applicant for a pilot's license shall make such flights as the board shall request and that aircraft should be flown before them or demonstrated in any other manner that they require. The registrar, Frank A. Goodwin, has appointed as members of the advisory board, Theodore E. Hedlund, a former Army pilot; Arthur L. Richmond, also an ex-military pilot of very extensive experience both during and since the war; Melvin W. Hodgdon, formerly test pilot for several airplane firms and engaged in the construction of aircraft; Raymond P. Baldwin, a member of the American Air Forces in Italy during the war and a lawyer who did the major part of the work of actually drafting the present statute; and Edward P. Warner, aeronautical engineer.

Licenses and registrations are to be designated as private or commercial, and no one may fly carrying passengers or merchandise for hire unless he is the holder of a commercial license. In addition, each license may contain restrictions as to the type of aircraft which the pilot can operate. This obviates the necessity of having the private owner of a JN show his qualifications as thoroughly as would be required of the pilot of a large passenger-carrying airplane. The fee for a pilot's license is $5.00 and the charge for registration is $15.00. Both license and registration are subject to renewal annually. It is expressly provided that no license or registration shall be required for pilots or aircraft licensed or registered by competent federal authority, and the provisions relative to these subjects therefore become nugatory immediately on the passage of a federal regulation bill. It is further provided that non-residents temporarily engaged in private flying need not be licensed if they have complied with any requirements of their own state. Commercial airplanes and pilots also need not be licensed if they are engaged chiefly in inter-state enterprises and have complied with all requirements of the state of the pilot's residence and the aircraft's ownership. Provision is made for allowing unlicensed pilots to "solo" over approved locations and under the observation of their instructor.

Registered Aircraft

Each registered aircraft must carry a number or other designated symbol on the fuselage and on the lower wing. Unregistered aircraft may be flown over approved fields or open water for the purpose of testing, but they must remain at all times close enough to such fields to return by a normal glide.

The registrar may suspend or revoke licenses if a pilot has flown in a dangerous manner or has transgressed any of the regulations provided in the act. Suspension of license follows on the operation of an aircraft under the influence of liquor, the aircraft law following automobile practice in this respect.

Any damage to a registered aircraft must be reported to the registrar and except in the case of damage to the engine or tires the aircraft must not be flown again in commercial use until it has been re-approved by the advisory board. The advisory board is also given power to inspect machines at any time and to condemn those which have so deteriorated as to be unsafe.

Stunt Flying Barred

Stunt flying exhibitions are in general frowned upon. No aircraft may be operated over any open air assembly of persons, such as that at a football game, except by special permission and even then only at an altitude which permits of a safe glide to a normal landing place. It is to be expected that special permission will only be given for the purpose of aerial photography to persons regularly engaged in that sort of work. No commercial aircraft may be stunted while carrying passengers. In other words, the stunting of paying passengers is absolutely forbidden. This provision seemed necessary not so much for the protection of the passengers as for the protection of the airplane's good name. Commercial flying has suffered too much from the irresponsibility of pilots who undertake to satisfy the public longing for a thrill. No one was ever made a friend of flying by being stunted on their first trip. This rule, of course, does not interfere with stunting by non-commercial pilots or the carrying of passengers during such flights if they are not paying passengers, and it is expressly provided that it should not be construed to interfere with the giving of instruction in acrobatic flying at flying schools. Wing walking and plane changing are absolutely prohibited. They serve no good purpose, and every one of our commonwealths ought to follow the lead of the Bay State in this respect. It is also forbidden to throw any article from an aircraft in flight except over flying fields reserved for that purpose or over open water.

Three thousand feet is the minimum permissible altitude over any city, and it is forbidden to fly over any person or

building at less than 500 feet except when just taking off or landing. Landing in public parks and in fields containing large numbers of people is also barred.

The provisions listed above may seem numerous and complex, but a careful examination of the law itself will show that there is nothing in it which will interfere with normal safe flying and no pilot is prevented from doing anything which, in justice to the public, to his passengers, and to himself, he should wish to do. It is believed that the police regulations incorporated in the act constitute the minimum of what should be adopted as working by any federal bureau which is charged with the control of aeronautics, and that the only effect of the state law after the federal law has been passed will therefore be to put the enforcing authority of the state behind the federal government. It is very necessary that that should be done, as federal officials can hardly be expected to watch for and detect minor breaches of regulation by aircraft pilots all over the United States and its territories. They should be able to command the assistance of state and local officials in the work of enforcement.

Prize for Papers on Airships

The Council of the Royal Aeronautical Society have decided to institute forthwith from the funds of the R38 Memorial Research Fund, an annual prize for a technical paper on airships. The regulations covering the award of this prize are given below, from which it will be seen that the date for the receipt of the names of intending competitors for the first award is Dec. 31, 1922, while the papers themselves must reach the Secretary on or before March 31, 1923.

Regulations of R38 Memorial Fund

From the income of the above Fund, a sum of twenty-five guineas will be offered annually as a prize for the best paper received by the Royal Aeronautical Society, on some subject of a technical nature in the science of aeronautics. Other things being equal, preference will be given to papers which relate to airships.

The prize is open to international competition. The Royal Aeronautical Society retains the right to withhold the prize in any year, if it is considered that no paper is of sufficient merit to justify an award.

Intending competitors should send their names to the Secretary of the Royal Aeronautical Society, 7, Albermarle Street, London, W.1, on or before Dec. 31 of each year, with such information in regard to the projected scope of their papers as will enable arrangements to be made for their examination. The closing date for the receipt of papers will be March 31 in each year.

Papers should in all cases be typed, and a copy should be retained by the Author, as the Society can take no responsibility for the loss of copies submitted to it.

Successful papers will become the absolute property of the Society, and will in most instances be published in the Society's Journal. In regard to unsuccessful papers, the Society retains the right of publication in its Journal, but in each case will notify the author, shortly after the award, whether it intends to exercise this right; if not, the Author will be free to publish elsewhere. A signed understanding must accompany each paper, to the effect that publication has not already taken place and that the Author will not communicate it elsewhere until the Society's award is published. Due acknowledgement must be made by the Author of the source of any special information.

Keel of U. S. Zeppelin Laid

The keel of the U. S. naval airship ZR3, to be built by Germany as a reparation ship for Zeppelins destroyed after the Armistice, was laid on Nov. 7 at the Zeppelin factory in Friedrichshafen, Germany.

The airship is expected to be completed in August, 1923. After trial flights in Germany, delivery to America by air will be undertaken by a German crew under the supervision of the American aeronautic mission detached for this purpose to the Zeppelin factory.

Gliding Meet at Daytona, Fla.

The Chamber of Commerce of Daytona, Fla., is planning to hold a gliding and soaring meet at Ormond-Daytona Beach sometime next January. The Aero Science Club of America, which has done much work in the past by training the youth of this country by means of gliders and model airplanes, is organizing the meet. The National Aeronautic Association of U.S.A. has given its assurance of cooperation. The Daytona Chamber of Commerce states that a $1,000 trophy has already been donated for this contest and that it is hoped to add substantially to this inducement by other trophies and cash prizes, too.

In considering the offer of the Daytona Chamber of Commerce the Aero Science Club took into consideration the fact that it would be necessary to wait until next summer if a meet were to be held near the great centers of population in the North. Such a delay would be deplorable in the face of the encouragement given to gliding flight in Europe.

Although the Ormond-Daytona Beach has no hills such as were taken advantage of during the contests abroad, the sand dunes of Ormond Beach offer an interesting place from which to glide, as was proven by the fact that all the early experimenters here, such as Octave Chanute, Avery, Herring and the Wright brothers used them. Orville Wright was one of the first men to develop the art of gliding, although he has not flown a glider since he soared over a sand dune at Kitty Hawk for ten minutes in 1911 in a 57 m.p.h. gale. Ormond-Daytona Beach will be a novel place to hold a contest for the reason that a strong breeze from the sea generally prevails in which some of the machines may be able to make true soaring flights. In the event there is no breeze, trials are to be made by having the gliders towed by automobiles to get up flying speed. The same could be done on the Indian River for the seaplane gliders, or off shore when the sea is smooth for such craft as will stand the waves.

It is proposed to make this competition an international one open to all kinds of motorless machines, both land and seaplanes, and there will also be a classification for low-powered sport machines of from 5 to 10 hp.

When the fact is recalled that Silas Christofferson some years ago built and flew a monoplane with but 9 hp., and Matthew B. Sellers a multiplane of but 8, and also that A. V. Roe brought a 3 hp. triplane to America and flew it successfully a decade or more ago, one can see that there are great possibilities in these low-powered sporting machines.

Among the latest developments seems to be flying in a horizontal wind over a smooth sea, and with the trade winds which obtain in Florida, this should prove to be an excellent locality for experimenting in this direction. Already a monoplane with flexibly mounted wings at the rear spars has risen from the water and flown for three minutes or more in true soaring flight abroad. This would indicate that we shall soon be soaring over the ocean for lengthy periods just as does the albatross and as an eagle also was observed to do recently near a ship at sea. This observation proved that there is no essential difference between land or sea-soaring birds; therefore a glider should be able to fly just as well over the ocean as over the land.

Invitations have been extended to the Air Service, The Air Mail Service, and the Bureau of Aeronautics of the Navy, to be represented in the competition. Any club or individual not having received notice is hereby invited to compete at Daytona.

General Mitchell's Maximum Speed Record

How the Great Performance Was Officially Observed

The following official report by the Contest Committe, Aero Club of America, on the speed trials conducted at Selfridge Field, Mt. Clemens, Mich., Oct. 18, when Brig. Gen. William Mitchell, Assistant Chief of Air Service, made a new world's maximum speed record, is of interest on several accounts. First, it will enable our readers to become familiar with the provisions of the F.A.I. governing such trials. Second, it shows that General Mitchell's record was made under strict observance of F.A.I. rules, and hence the performance counts as an official world record. It is well to emphasize the latter point, for some of our European friends have recently come to cast doubts on *all* American performances because of the irregular manner in which many of them were made with respect to F.A.I. rules. The report which follows should suffice to allay their skepticism in this matter.

***Speed Trials Conducted at Selfridge Field Oct.* 18, 1922**

These speed trials were conducted for the purpose of determining the average straightaway speed of the Curtiss high speed pursuit airplane which won the Pulitzer Trophy Race on Oct. 14 and which was known in the race as No. 43.

The preparation for these trials was carefully carried out in exact accordance with F.A.I. regulations. A course exactly one kilometer in length was laid out in the center of Selfridge Field extending substantially in a northwest and southeast direction. The northwest end of the course was designated as station number one, and the southeast end as station number two. The course was accurately surveyed and rechecked during the forenoon of Oct. 18.

Timers' sights were erected at each end of the course in exact accordance with the diagram shown on page 142 of the Aero Club of America Rule Book. The Indianapolis Motor Speedway electric timer which was used to time the Pulitzer Trophy Race was set up and properly wired to enable its operation from both sets of timers' sights. The chronometer forming part of this electric timing device was calibrated by the Bureau of Standards just before the Pulitzer Trophy Race. Timers and observers were stationed as follows:

Fred H. Hoover, acted as observer at the 500 meter point before station number one.

Raymond Ware acted as observer at the 500 meter point before station number two.

Harry H. Knepper acted as Chief Timer with O. A. Porter assisting at Station No. 1.

Lionel M. Woolson acted as Assistant Timer and operated the switch at Station No. 2.

B. Russell Shaw acted as observer at Station No. 1 in addition to supervising the entire job.

The tests were conducted between 3.30 and 4.30 p. m., at which time the atmosphere was approximately 45 deg. Fahr., with a northwest by north wind having a velocity of approximately 18 m.p.h. Two complete trials were made, the detail results of which are recorded on the attached report and certified to by Harry H. Knepper, Chief Timer.

As shown on the timer's sheet, the average speed obtained on the first trial was 353.715 kilometers or 219.78 m.p.h., and the second trial was 361.28 kilometers or 224.38 m.p.h. The two tests were completed in continuous flights in the order shown on the detail sheet. The plane was piloted by Brig. Gen. William Mitchell, and all flights were made and timed in exact accordance with F.A.I. regulations as certified to by all observers. In each flight the plane came down to an altitude of less than 50 meters before passing the 500 meter station in front of the course, and the flight was horizontal from this point until the course had been passed over.

J. G. VINCENT,
Local Representative, Contest Committee, Ae.C.A.

Oct. 18, 1922.

DETROIT AVIATION SOCIETY
Ae.C.A. Timer's Sheet
(Electric Timing)
Maximum Speed over 1 Kilometer.

Oct. 18, 1922.

Selfridge Field
Airplane No. 43—Motor, Curtiss CD12, 375 hp.
Pilot: Brig. General Mitchell.

First attempt—4:00 p. m.

	Time	m.p.h.	k.p.h.
South bound 1st flight	9.42	237.47	382.17
North bound 2nd flight	11.16	200.441	322.58
South bound 3rd flight	9.36	238.99	384.615
North bound 4th flight	11.06	202.25	325.497
Average		219.78	353.715

Second attempt—4:10 p. m.

South bound 1st flight	9.17	243.94	392.59
North bound 2nd flight	10.95	204.29	328.77
South bound 3rd flight	9.25	241.83	389.19
North bound 4th flight	10.76	207.89	334.57
Average		224.38	361.28

(Signed) H. H. KNEPPER
Timer

Selfridge Field
Airplane No. 44—Motor, Curtiss CD12, 375 hp.
Pilot: Brig. General Mitchell.

First attempt—Time 3:00 p. m.

	Time	m.p.h.	k.p.h.
South bound 1st flight	9.51	235.22	378.555
North bound 2nd flight	11.73	190.864	307.167
South bound 3rd flight	9.72	230.14	370.37
North bound 4th flight	11.77	190.05	305.862
Average		211.56	340.487

Second attempt—Time 3:08 p.m.

South bound 1st flight	9.47	236.21	380.15
North bound 2nd flight	11.45	195.37	314.41
South bound 3rd flight	9.45	236.71	380.95
North bound 4th flight	11.35	197.09	317.18
Average		216.34	348.172

(Signed) H. H. KNEPPER
Timer

It will be seen from the above report that General Mitchell's best average speed for four runs of the 1-kilometer course was 224.38 m.p.h. (361.28 kilometers per hour), and not 224.05 m.p.h., as was originally stated.

Airport at Media, Pa.

A new field was added to America's airways on Oct. 20, last, when the Media Flying Field was inaugurated at Media, Pa. The field was officially dedicated by a plane flying over it and dropping an American flag. Governor Sproul of Pennsylvania made an address, and Major Brookes of the Third Corps Area accepted the field in the name of the Army from C. Frank Williams, president of the Business Men's Association. Admiral Knowlton, of the Philadelphia Navy Yard terminated the exercises with an impressive speech to the large crowd which had assembled from many points in and around Philadelphia.

Some twenty airplanes of all types were present and gave the public a demonstration of stunt flying, formation, aerial observation, etc. The ships included the following: DH4B, SE5A, Spad, XB1A, JN6, Oriole, Martin Bomber. The airship D3, from the Lakehurst naval air station was also present.

The new field is a tract 100 acres in size, and is a gift of the Media Business Men's Association, which wished to have Media possess a field permanently available to civil and military fliers.

New Canadian Airport

The Air Board of Canada advises that it has issued Airharbor License No. 56 to the Wallace Aircraft Co., 291 Brant Ave., Branford, Ont., for a commercial airport under 300 yd. This airport is situated on Lots 28 and 29, Third Concession, County of Brant, Township of Brantford, Ont.

International Commission for Air Navigation

Resume of Proceedings at First Session, London, Oct. 27

The first public session of the International Commission for Air Navigation was held on Oct. 27 in London, Maj.-Gen. Sir W. Sefton Brancker presiding. Countries which have ratified the 1919 International Air Convention governing civil aviation, being present included Belgium, Bolivia, the British Empire, France, Greece, Japan, Persia, Portugal, the Kingdom of the Serbs, Croats and Slovenes and Siam. A representative of the General Secretariat of the League of Nations was also present, having been appointed to attend in order to convey information to the League. A resumé of the proceedings, which were conducted mainly in French, follows.

Age Limits for Pilots—A report from the Medical Sub-Committee on the fixing of rules, mentioned in Annex E of the Convention, for the medical examination of pilots, recommended that no pilot should be engaged before attaining the age of 19 or after attaining the age of 45, and that medical re-examination should take place after six months or after a pilot has flown 250 hours, whichever occurred first. The recommendation was adopted.

The Use of Wireless—The Commission next considered the report of a sub-committee on the use of wireless apparatus on aircraft, and agreed, as a general principle, that all aircraft engaged in public transport must carry wireless apparatus. At present this provision is applied only to aircraft able to carry ten or more persons. Aircraft carrying fewer than ten persons, and flying more than 100 miles over land without landing, or more than 15 miles over sea, must carry wireless apparatus within two years.

Votes of the Contracting States—With regard to Article 34, which relates to the distribution of votes in the International Commission for Air Navigation, a proposal was made by the Belgian delegate to the effect that each contracting State should have one vote only, that any amendment of the annexes to the Convention must be carried by a three-fourths majority, and that no amendment of the annexes should be passed without the consent of at least three of the following States—United States of America, Great Britain, France Italy and Japan.

In accordance with a suggestion made by the Chairman, this matter was referred for the consideration of each individual Government prior to the holding of the next assembly.

Nationality Letters—The French delegation submitted a note in which they emphasized the desirability of the nationality letter being the same for aircraft registration as for wireless calls, and suggested that those countries to which no aircraft registration letter had been allotted under the Air Convention should be requested to adopt now the same letters for aircraft registration as for international wireless calls.

To give effect to this, Lieutenant Colonel Blandy, Controller of Communications in the British air ministry, was appointed Reporter to prepare a list of suggested letters for those countries to which a letter has not already been allotted under the Air Convention. It was also decided to request the League of Nations to help to induce other nations which are members of the League, but not yet parties to the Air Convention, to adopt the letters which would be proposed.

Flights over Foreign Territory—The Commission decided to amend Article 5 of the Convention so that it would read as follows: "No contracting State shall, except by a special and temporary authorization, permit the flight above its territory of an aircraft which does not possess the nationality of a contracting State, unless it has concluded a special convention with the State in which the aircraft is registered. The stipulations of such special convention must not infringe the rights of the contracting parties to the present Convention, and must conform to the rules laid down by the said Convention and its annexes. Such special convention shall be communicated to the International Commission for Air Navigation, which will bring it to the knowledge of the other contracting States."

The chairman remarked that the article in its new form would make it easier for other nations to enter the Convention. It had been proposed that the article should be signed by some of the States that day. He understood, however, that none of the delegates had yet received the authority of his Government to sign, although it was certain that everyone would sign it. The British government must consult India and the self-governing Dominions. It was therefore suggested that he, as chairman, and Mr. Roper, as Secretary-General, should sign it as indicating the approval of the Commission to the draft, and that it would then be signed by the representatives of the contracting States as they received authority from their Governments. This course was adopted.

On the invitation of Col. Van Crombrugge, on behalf of the Belgian government, it was decided to hold the next session of the Commission at Brussels about Feb. 20, 1923.

St. Louis Wants Pulitzer Race

According to the New York *World*, twenty business, financial and professional leaders of St. Louis, Mo., on Nov. 14 formed a citizens' committee and voted unanimously to guarantee all the necessary expenses to bring the Pulitzer air race to St. Louis next October.

In a telegram despatched to Howard E. Coffin, President of the National Aeronautical Association, Washington, D. C., the committee, in seeking the association's 1923 meet and Pulitzer race, offers besides the underwriting, "an ideal flying field, perfect climatic conditions, and suitable prizes."

W. F. Carter is Chairman of the committee, and L. P. Aloe, Acting Mayor, and D. R. Calhoun, Vice Chairman. Other members are: B. F. Bush, President of the Missouri Pacific Railroad; Albert Bond Lambert, capitalist and aeronautical expert; Festus J. Wade, financier; Frank O. Watts, banker; George S. Johns, editor of the editorial page of the *Post-Dispatch*; M. L. Wilkinson, Albert T. Perkins, Phil Brockman, John L. Johnston, John G. Lonsdaale, Aaron Waldheim, Randall Foster, Lyman T. Hay, Walter B. Weisenburger, Roy F. Britton, F. W. A. Vesper and Joseph Pulitzer, publisher of the *Post Dispatch*.

Quarterly Forecasts of Automotive Sales

Quarterly forecasts of automotive sales covering over one hundred countries have just been announced by M. H. Hoepli, Acting Chief of the Automotive Division, Bureau of Foreign and Domestic Commerce, Washington, D. C. The forecasts are a part of a world-wide automotive sales survey, plans for which are now completed.

The survey is based on investigations of the world's automotive potentiality and selling seasons by officials of the Bureau from all over the world.

State Names Aviation Inspector

The state of Connecticut has appointed Lieut. Talbot O. Freeman state aviation inspector. His duties will consist in inspecting aircraft flying within the limits of the state as to their airworthiness, and his authority will be final.

Lieutenant Freeman was graduated from Massachusetts Institute of Technology in 1917. He served eleven months on the Italian front as an aviator and was thrice decorated by the Italian government.

The Hartford Aviation Meet

First District, N.A.A. Elects Officers and Governors

The Hartford Aviation Commission deserves great credit for the manner in which it conducted the Second Annual Aviation Meet at Brainard Field, Hartford, Conn., on Nov. 10, 11 and 12. The Army Air Service, U. S. Air Mail, New York National Guard, and approximately ten individual flying organizations co-operated with the Hartford people and with the Aeronautical Chamber of Commerce in making the meet a success. While the National Air Races held in Detroit last October precluded the possibility of the meet being other than a sort of flying picnic in point of contests, the large amount of flying done met the expectations of the spectators and unquestionably justified the holding of the meet.

In fact, it was more difficult to attract attention to the Hartford gathering than would have been the case had there been at least one stellar event. Had such an event been arranged, it is doubtful if there would have been sufficient entries to warrant it; for American aviation went to considable expense and much time and effort to make the National Air Races in Detroit the greatest aeronautical event in the world history of aviation. Neither government nor civilians could prepare for another series of important contests—had there existed a reason for it.

Nevertheless about 100,000 people went to Brainard Field during the three days of the flying meet and formed an appreciative audience. Among the ships present the following types were noted: Martin Bomber, DH4B, Curtiss Oriole, JN4D, J1, Bristol Bullet, Mail DH.

The Flying Events

The meet was formally opened on Nov. 10 with the arrival from Baltimore, Md., of the Army airship D3, commanded by Maj. O. Westover. The ship made a stop en route at Mitchel Field, L. I. Its arrival was followed by that of U. S. Mail plane piloted by Charles H. Ames, and carrying 20,500 pieces of mail from Curtiss Field, L. I., where it had picked it up from plane incoming from Chicago and Cleveland. Four of the ships entered in the meet arrived the night before, while the remainder began trickling in during the day.

The second day of the meet opened with the arrival at 8 a. m. from Mitchel Field, L. I., of sixteen Air Service ships, which arrived in four formations. They were followed by a Curtiss Oriole from Garden City, L. I., piloted by William H. McMullen, and carrying H. D. Rundey and J. C. Wagner as passengers.

A bombing contest in which thirteen ships participated was won by a DH4B piloted by Lieutenant Blaney with Corporal Turner as bomber, whose bombs came within 40 ft. of the target. The bombing was done from 500 ft. altitude. Lieut. E. H. Barksdale of Mitchel Field won the free-for-all speed race (54 miles over triangular course), with Sergt. Linwood P. Hudson of Aberdeen Proving Grounds second, and Lieut. Evers Abbey of Mitchel Field third. First prize trophy was donated by Ex-Mayor Newton C. Brainard, in whose honor the Hartford airport was named Brainard Field. Lieut. F. B. Valentine of Mitchel Field won the Class A race for planes rated under 125 m.p.h., with Sergt. Linwood P. Hudson of Aberdeen Proving Grounds second, and Capt. Burr W. Leyson of Allston, Mass., third. Lieut. Ralph C. Barrows won the Class B race for planes rated under 100 m.p.h., with Pilot Harold E. Banks second, and Lieut. Lott of Miller Field third. The landing contest, giving each pilot two chances to land the nearest to a target from 500 ft. altitude, was won by Lieutenant Shankle, with 10 ft.; Lieutenant Bleakly was second with 12 ft., and Lieutenant Blaney third. The altitude contest was won by Captain Leyson on the Bristol Bullet with 19,800 ft., Lieutenant Ballentine being second with 18,100 ft. A Jenny race and a balloon sniping contest closed the events of the day.

Lieut. J. S. Stanley, N.Y.N.G., of Miller Field, won the special race for training planes, with Lieut. Kendrick Noble of Miller Field second.

The third day of the meet was saddened by the death of Lieutenant Blaney, caused by crashing into a tree on finishing the relay race. The pilot was coming into the field when he misjudged distances and brushed with one wing against the tree. The machine struck the ground with great force and burst into flames. The pilot was dead when found.

The relay race was won by the team of four pilots led by Maj. Junius Jones, of Mitchel Field, L. I., with Lieutenants Barksdale, Noble and Stanley as the other pilots. In this race each of the four pilots raced over a 7 mile course. On the arrival of one plane the waiting plane of the same team took off, then the third and the fourth respectively. The winning team covered the 28 miles in slightly over 18 min. The team composed of pilots Shankle, Moffat, Barrows and McMullan finished second. The team on which Lieutenant Blaney was flying was withdrawn after his death.

The limited altitude race was won by Lieutenant Moffat with 10,300 ft. in less than 15 min., Sergeant Hudson being second with 4,300 ft. Lieutenants Barksdale and Valentine both rose to over 10,000 ft. but were disqualified for exceeding the 15 min. time limit.

Lieut. Samuel T. Mills, of McCook Field was officer in charge of flying, with H. Terry Morrison, Talbot O. Freeman, and James B. Slimmon of the Aviation Meet Committee as aides. Prof. Edward P. Warner of the Massachusetts Institute of Technology served as field judge.

Silver trophies of over $6000 aggregate value were awarded in connection with the various events, the several winners being as follows: Lieut. R. C. Moffatt received the special trophy donated by Porter H. Adams, vice-president of the National Aeronautical Association, for award to the New England pilot showing the greatest regard for safety of both spectators and himself. Air Mail Pilot Ames received the Hartford Chamber of Commerce trophy for the most efficient pilot. The Curtiss Exhibition Co. of Garden City, L. I., won the Hartford Stock Exchange trophy for the largest number of civilian entries. Mitchel Field won the Gilbert F. Heublein trophy for the largest number of military entries. Lieut. Ralph C. Barrows received the trophy donated by Mayor Richard J. Kinsella for award to the pilot showing highest co-operation and good sportsmanship. Lieut. Samuel T. Mills of McCook Field won the long distance "On-to-Hartford" cup donated by Governor Everett J. Lake. Air Mail Pilot C. H. Ames was second, and Lieutenant Shankle, third.

The pilots participating in the various events expressed themselves as being highly gratified at the splendid treatment they received from the Hartford people. Unusual arrangements had been made by the Hartford Aviation Commission for handling the crowds which required little or no police supervision to keep them off the field. The City Park commission had lent hundreds of Park benches which served as bleachers. The Aviation Commission had installed amplifiers at short intervals all the way down the line in front of the spectators and by means of these every person on the field was kept informed of everything going on.

N.A.A. District Organized

At the organization meeting of the First District of the National Aeronautic Association at Hartford on Nov. 10, Godfrey L. Cabot, of Boston, read a cable from Maj. Gen. Leonard Wood accepting the nomination as New England's candidate for one of the five Governors at Large to be chosen from nine candidates, one from each of the nine districts. The five Governors at Large will be elected by postcard ballot by the present National Governors from Districts. Officers of the First District were elected. They are: Porter Adams, Boston, president; Godfrey L. Cabot, Boston, vice-president; Clarence M. Knox, Hartford, secretary. The Governors elected for the First District, N.A.A., are Warren Noble, Providence, R. I.; Prof. Edw. P. Warner, Boston; H. Leroy Morrison, Hartford; Maj. E. B. Lyon, Boston; Wm. F. Beardsley, Springfield, and G. H. Whitmore, Naugatuck, Conn.

The Air Route from Cairo to Bagdad

The most picturesque of the regularly traveled air routes and the one richest in historical associations is undoubtedly the 864 miles that separate Cairo, the capital of Egypt from Bagdad, the principal city in Mesopotamia.

In one day the fliers of the British Royal Air Force go from the Land of the Pyramids over the Holy Land and across more than 500 miles of desert to the Land of the Date. All of these countries were the scenes of early civilizations and the planes carry the letters of European and American business firms above ruins that are 4000 years old.

The most difficult part of the journey is the 532 miles of desert that stretch between Palestine, or rather Transjordania, and the capital city of the land from which our dates come. There are practically no natural land marks in all this distance; it would be comparatively easy, however, to navigate this by compass but the risk of forced landings can never be eliminated and the problem was to provide some sure means by which help, if necessary, could be provided for the stranded airmen. This problem was solved by running a number of motor trucks and automobiles over the same track across the desert and marking off a series of possible landing places that will act as a guide to a pilot and enable him to be located by wireless in the event that he has been compelled to come to the ground. Only this narrow track—two parallel lines five or six feet apart—is the flier's navigating chart. On favorable ground it is easy to see it even from 8,000 ft. aloft, but, as may be imagined, it is none too easy to pick up without some indication as to its locality, nor is it a simple matter to follow it, when found, if the nature of the ground has prevented the vehicles from making more than a slight impression on the surface.

On some places the single track has been reinforced by a number of separate tracks where the cars and trucks spread out instead of following one another, but for the most part the task of the airman is to hold grimly to the single narrow streak. Should he lose sight of it at any time, there is nothing for him to do but to circle round in the air or to retrace his course until the track has been picked up again.

One additional danger the fliers of the Royal Air Force face on this journey—there is always the possibility that some desert dweller who nurses an antipathy to the British may take a shot at a low-flying plane or that the airman, if forced to descend, will encounter hostile tribesmen. However, the nomads of this district have been inclined to friendliness through the action of the Force in picking up and flying to Bagdad with a wounded shiek found in the desert and in procuring for him the medical treatment that saved his life.

Davenport, Iowa, and Aviation

The Davenport, Iowa, Chamber of Commerce devoted a recent membership meeting to aviation, calling Wm. P. MacCracken, chairman of the recent Aero Congress at Detroit, to go there from Chicago and address some 200 members of the organization on the possibilities of commercial aviation, and the need of its development. A bulletin having been circulated to the members of the Aeronautical Chamber of Commerce, asking that photographs, maps, posters, etc., be forwarded to Ralph W. Cram, governor of that District, a fine collection of material had resulted for covering the walls of the big dining room where the meeting was held.

Reports from Davenport are that the meeting "went over big."

"Deliver by Air Mail"

The Aeronautical Chamber of Commerce, 501 Fifth Ave., New York, wishes to call the attention of those interested to its "Deliver by Air Mail" rubber stamp. This stamp was made some time ago for the convenience of those desirous of expediting delivery of their mail.

A few of these stamps are still on hand and may be had from the Chamber upon receipt of 50 cents in postage stamps.

Organizing the Air Routes

Secretary of the Navy Denby sent on Nov. 8, last, the following letter to the Chairman of the Interstate Commerce Commission, Washington, D. C.

Sir:—

It has come to my attention that pilots of aircraft engaged in cross-country flights often find it extremely difficult to navigate accurately, particularly in unfavorable weather. It would be of great assistance to these pilots to be able to identify towns over which they pass, thereby enabling them to check their positions accurately. In fact, I have been informed that it often happens that pilots who are flying over routes with which they are not thoroughly familiar come down to a very low altitude for the purpose of ascertaining the names of the towns over which they pass. This practice is dangerous and would not be necessary if the name of the town were displayed in large letters so that it can be seen from a higher altitude.

It is believed that the best location for the painting of the names of towns would be on the roofs of railway stations, as pilots could always locate the railway station by simply following the railways. It would seem probable that the railway companies throughout the country would be willing to paint the names of towns on the roofs of railway stations if the matter were brought to their attention. It is therefore suggested that the Interstate Commerce Commission submit such a proposition to all railway companies and urge that the project be carried into effect at the earliest practicable date.

It is understood that some time ago the Post Office Department made an attempt to arouse the interest of the public in this proposition, with a view to influencing municipalities to display the names of the towns for the purpose of aiding aviators in navigation. This movement resulted in the proposition being carried through in some few municipalities, but the interest aroused was not sufficiently widespread to accomplish the desired result.

Respectfully,

(Signed) EDWIN DENBY

Copies of this letter have been sent to the Secretary of War and the Postmaster General.

Pioneer Buys Sperry Instrument Business

The Pioneer Instrument Co. has purchased the entire aircraft instrument business of the Lawrence Sperry Aircraft Co. The Pioneer company has also secured licenses under certain patents of the Sperry Gyroscope Co.

The latter firm started to make airplane instruments and apparatus over ten years ago, and today Sperry instruments are known and used all over the world. During the war, the Sperry aircraft instrument department grew to very large proportions, employing about 600 people at the time of the Armistice. During the period of readjustment which followed, the Sperry company decided to discontinue its aeronautical work, and in the spring of 1919, Charles H. Colvin, who had been manager of their aircraft instrument department, and B. H. Goldsborough, his assistant, organized the Pioneer Instrument Co. They were joined a year later by Morris M. Titterington, who had been the chief engineer of the Sperry company's aircraft instrument department since 1914.

The Sperry company continued to manufacture Sperry aircraft instruments in connection with airplane construction. Being primarily interested, however, in the manufacture of airplanes, they decided some months ago to close out the instrument department, and initiated the negotiations which have just been concluded.

The Lawrence Sperry Aircraft Co. will continue the manufacture of airplanes, upon which their entire attention will now be concentrated. They have a modern and well-equipped factory at Farmingdale, L. I., with an adjoining flying field, and are building on commercial orders as well as on government contracts.

Both "Sperry" and "Pioneer" instruments will now be manufactured and sold by the Pioneer Instrument Co.

ARMY AND NAVY AIR NEWS

Air Service

Eligibility for Appointment as Flying Cadet—The Office, Chief of Air Service announces that the following are eligible for appointment as flying cadet: (1) Enlisted men of the Regular Army; (2) Civilians.

Candidates must be, at time of application: (1) Unmarried male citizens of the United States; (2) Between the ages of 20 and 27 years; (3) High-school graduates, or possess the equivalent of a high-school education; (4) Of excellent character; (5) Of sound physique and in excellent health.

Examinations will be held the second Tuesday in January and July. The educational examination may be omitted if the applicant presents documentary evidence of his graduation from a high school within two years immediately preceding date of this examination or of his attendance at a recognized college or university within that time. If such evidence cannot be furnished the board, the educational examination will be given, the general scope of which may be secured upon application to the Chief of Air Service, Washington, D. C. Classes are scheduled to commence in September, 1923.

The base pay of flying cadets is $75 per month, which includes extra pay for flying risk. The ration allowance will not exceed $1.00 per day; the other allowances such as clothing, equipment, etc., are those of a private first class, Air Service. Applicants from civil life will be required to pay all expenses incident to their appearance before the examining board for examination and no claim for reimbursement of the expenses incurred prior to enlistment will be considered.

Application blanks may be secured from the Chief of Air Service, Washington, D. C., and must be submitted in triplicate, accompanied by three letters of recommendation, signed by persons of recognized standing in the community of the applicant.

The term of enlistment of flying cadets is three years, but they are discharged upon completion of or failure to complete the prescribed course, and are not required to serve the unexpired portion of their enlistment period. The courses of training normally require fourteen months for heavier-than-air, and nine months for lighter-than-air.

Flying cadets who successfully complete the prescribed course of training will be commissioned 2nd lieutenants in the Air Service Officers' Reserve Corps (inactive status), and, upon discharge, receive such travel pay and other allowances as are given other enlisted men when discharged from the service.

Examining boards are now located at the following stations:

Mitchel Field, Long Island, N. Y.
Bolling Field, Anacostia, D. C.
Langley Field, Hampton, Va.
Montgomery Air Intermediate Depot, Ala.
McCook Field, Dayton, Ohio.
Chanute Field, Rantoul, Ill.
Scott Field, Belleville, Ill.
Selfridge Field, Mt Clemens, Mich.
Hawaiian Department, Luke Field, H. T.
Aberdeen Proving Grounds, Md.
Kelly Field, San Antonio, Tex.
Brooks Field, San Antonio, Tex.
Crissy Field, San Francisco, Calif.
Ross Field, Arcadia, Calif.
Fort Bliss, El Paso, Tex.
Fort Riley, Kan.
Philippine Department, Manila, P. I.
Panama Canal Department, Cristobal, C. Z.

Aerial Exhibition at Bolling Field—A very successful aerial exhibition was staged by the Air Service on Oct. 25 at Bolling Field, D. C.

The first event was furnished by a photographic plane circling the field and taking photographs of the spectators. Lieut. Guy Kirksey piloted the ship and Sergeant Matox worked the camera.

In the next event three DH4B planes took the air, circled the field a number of times and then bombarded a miniature coast artillery fort erected at the end of the field. These planes were piloted by Lieuts. Alfred B. Baker, H. W. Beaton and H. K. Ramey. This event was followed by three planes circling the field in close formation, piloted by Capt. St. Clair Streett, Lieut. LeRoy Wolfe and Lieut. H. K. Ramey.

In event No. 4 Lieut. T. P. Smith, with Sergeant Hukill as passenger, circled the field and, when in front of the spectators, Sergeant Hukill dropped what the program termed a "surprise package."

Following this event Lieut. Paul C. Wilkins, with Sergeant Hukill as passenger, took the air in a DH4B, closely followed by Lieuts. LeRoy Wolfe and H. K. Ramey in SE5's, the program stating that the SE's were to attack the DH, which would simulate bursting into flames with smoke candles, the escape of the observer to be represented by the casting out of a dummy with parachute from a height of not less than 1500 ft. The manner in which the little SE5's maneuvered around the DH occasioned considerable comment from the spectators. Finally, the dummy with the parachute was seen to leave the ship. The "chute" did not function as well as was expected. Following this, a trail of blue smoke was seen issuing from the DH and the plane was making a dive for the river. Many anxious spectators thought for a moment that engine trouble developed and that the pilot was heading for a landing on the river, but breathed easier when a few moments later the plane was seen to rise in the air and come back to the field. Evidently the smoke candles handled by Sergeant Hukill worked very well.

Lieutenants Wolfe and Ramey remained in the air and treated the spectators with a fine exhibition of the maneuvering abilities of their planes. They also showed remarkable accuracy in destroying toy balloons by ramming them with their ships.

• • •

Big Fire at Selfridge Field—Fire that broke out Nov. 12 and threatened for hours to destroy the frame buildings at Selfridge Field, Mt. Clemens, Mich., was brought under control late at night after burning the structures housing the quartermaster's department. The stores destroyed and the buildings were valued at nearly $500,000.

Wind swept the flames toward twenty or twenty-five other buildings, including the hangars, and hampered the several hundred service men and Fire Departments from Mount Clemens and Detroit. Pilots and mechanics removed the fifty or more airplanes from the hangars and parked them on the flying field.

• • •

Air Service Training Unit, U. of Ill.—The Air Service Training Unit of the University of Illinois spent several weeks this summer at Chanute Field, Rantoul, Ill., and were very much benefitted by the intensive, though brief, training course given them. During the progress of this camp the cadets paid a visit via air to Dayton, Ohio.

The trip was made on seven DH4B's, one of which was occupied by Captain Clark, C. O. of the 15th Aero Squadron, and by Captain Whitesides, chief of the U. of Ill. flying unit, the other ships each carrying a R.O.T.C. student and a pilot.

Army Orders—Maj. Henry H. Arnold, A. S., is relieved from further duty at headquarters Ninth Corps Area, Presidio of San Francisco, Calif., with orders to assume command of Rockwell air intermediate depot, Rockwell Field, Coronado, Calif.

Staff Sergeant Lonnie M. Johnson, 1st Group, Selfridge Field, Mich., is transferred in the grade of sergeant to the detached enlisted men's list and is detailed to duty with the National Guard of Indiana, as sergeant-instructor of Air Service. He will be stationed at Kokomo, Ind.

Maj. Joseph C. Morrow, A. S., now at Station Hospital, Fort Sam Houston, Tex., will report to Brig. Gen. William R. Smith, U.S.A., president of an Army retiring board at headquarters Eighth Corps Area, Fort Sam Houston, Tex.

Capt. Hubert S. Steenberg, Medical Corps, is relieved from duty at Bolling Field, D. C., to proceed to Langley Field, Va., relieving Maj. Edward P. Beverley, Medical Corps, who will proceed to Washington, D. C., and report at Bolling Field for duty.

The transfer of First Lieut. Edwin G. Shrader, Corps of Engineers, Post Field, Okla., to the Air Service, with rank from Aug. 2, 1919, is announced, assigned to 44th Squadron (Observation), Post Field, Okla.

Capt. Otto G. Trunk, A.S., relieved from duty at Montgomery Air Intermediate Depot, Montgomery, Ala., will proceed to Fort McPherson, Ga., for duty as air officer.

First Lieut. William Turnbull, relieved from duty at Scott Field, Ill., to report at Brooks Field, San Antonio, Tex., for pilot training.

Maj. Percy E. VanNostrand, relieved from further duty in the office of the Chief of Air Service, has been assigned to the Aircraft Factory, Philadelphia, Pa.

First Lieut. Lewis S. Webster, transferred from Langley Field, Va., to France Field, Cristobal, C. Z.

Capt. John B. Holmberg, A.S., is retired from active service as incapacitated owing to disability incident thereto.

Capt. Ralph H. Wooten, A.S., from Field Officers' School, Langley Field, Va., to duty at Langley Field.

First Lieut. Arthur G. Liggett, A.S., from Crissy Field, Calif., to Selfridge Field, Mich.

The name of Maj. Arthur R. Christie, A.S., is removed from the detached officers' list.

First Lieut. Kohn S. Griffith, Inf., detailed in the Air Service, from Camp Lewis, Wash., to Brooks Field, Tex.

First Lieut. Silas C. Hyndshaw, A.S., from Middletown Air Intermediate Depot, Pa., to Mitchel Field, L. I.

First Lieut. Kenneth B. Wolfe, A.S., from Americus Air Intermediate Depot, Ga., to Brooks Field, Tex.

First Lieut. Corliss C. Moseley, A.S., from McCook Field, Ohio, to duty with the Organized Reserves, Ninth Corps Area, Los Angeles.

First Lieut. Muir S. Fairchild, A.S., from present duties at McCook Field, Ohio, to Air Service Engineering School.

Maj. John F. Curry, A.S., from Hawaiian Dept. to McCook Field, Ohio.

Capt. Chester P. Dorland, A.S., from Mitchel Field, L. I., to Walter Reed General Hospital, Takoma, D. C., for treatment.

First Lieut. Laclair D. Schulze, A.S., from Post Field, Okla., to Selfridge Field, Mich.

Capt. Claudius H. M. Roberts, Capt. Simpson R. Stribling and Lieut. James P. Gillespie, Ordnance Dept., placed on duty involving flying for developing, testing and inspecting aircraft armament and material with the Air Service.

* * *

Activities in the Philippines—With the recent arrival of 92 casuals at Clark Field, Pampanga, P. I., the reorganization of the 28th Squadron (Bombardment) is rapidly being completed. First Lieuts. R. A. Hicks and J. R. Drum, both Air Service officers from Corregidor, have been assigned to this squadron.

The recent arrival of some 225 men from the United States at Camp Nichols, Rizal, P. I., means the realization of the plans drawn up at this field to improve the facilities for carrying out the Air Service activities. With these additional men the erection of hangars and warehouses will shortly begin.

16th Observation Squadron—All pilots of the 16th Observation Squadron, stationed at Fort Riley, Kan., flew to Salina, Kan., to take part in the airplane meet staged by the American Legion Post, Oct. 14 to 16.

The exhibit from Fort Riley was, naturally enough, by far the most pretentious, Captain Boland's "War God" showing full service equipment of machine guns, radio apparatus, etc., and Lieutenant Nowland's photographic ship "Cyclops" and one JN6H were all properly shined up for the occasion. There were no scheduled events in which the Army planes could participate in connection with the civilian ships, so formation flights, acrobatics, etc., were resorted to to keep the crowd reminded that the Air Service was there.

The main event of the meet was a hundred-mile race over a ten-mile triangular course, the entry being limited to planes of 100 miles rated speed or less. Since only four machines were entered, three of the Army pilots entered with DH's (Captain Boland and Lieutenants Griffin and Barriger) simply to fill in and give the crowd something to look at. The prize went to the diminutive Longren, powered with an Anzani 80 hp. motor, which averaged nearly 95 m.p.h.

Upon completion of the meet, the American Legion donated $250 to the Squadron Fund.

* * *

22nd Photo Section—The 22nd Photo Section, stationed at Kelly Field, Tex., recently cooperated in the maneuvers held by the Second Division. A mosaic map of the area occupied by the troops of the Division was made one day when the area was occupied, and another was made the following day, after the troops had been withdrawn. Very satisfactory results were obtained, it being possible to trace the movements of the various regiments almost as well as though they had built roads to move out on, and proved to the officers of the Second Division the value of aerial photography in tracing the movements of troops. Of particular value was the proof of the ability of the K-1 camera, fitted with a K-3 filter, and using Panchromatic film, to pierce the haze so often encountered in aerial photography. The photographs were made at an altitude of 9,300 ft., through a dense haze which extended up to about 10,000 ft., and which rendered it impossible to pick out a point four miles distant with the naked eye. This point was some large, bright red building. Regardless of this disadvantage, however, the negatives obtained were clear and snappy. Captain Griffin piloted the photographic ship and Cadet Thomas made the exposure.

* * *

43d School Squadron—Recently the advanced students in pursuit flying attached to the 43rd School Squadron stationed at Kelly Field, Tex., held an altitude contest in SE's, each trying to take his ship to its ceiling. The altitudes gained were from 16,000 to 19,000 ft., Cadet Wasser taking the honors with the latter figure. Although it was a warm summer day, they reported on landing that it was winter and a cold one above 10,000 ft.

* * *

Brooks Field Marks Airways—Pilots stationed at Brooks Field, Tex., have completed the marking of the San Antonio-Dallas and San Antonio-Houston airways. The $200 allotted for this work was used in marking the following fields:

San Antonio-Dallas—Camp Travis, San Marcos, Austin, Georgetown, Temple and Waco.

San Antonio-Houston—Eagle Lake, Columbus, Gonzales and Seguin.

* * *

Joint Maneuvers of National Guard Squadrons—At Blackwood Field, Nashville, Tenn., recently an air formation was flown consisting of both the Tennessee National Guard planes and Alabama National Guard aircraft.

This is the first time that two National Guard squadrons have ever staged an air meet together. The affair was so successful that plans are being made for the fliers of these two Guard organizations to make regular trips to each other's field.

Death Notice—The Adjutant General's Office has issued the following death notice:

JOHN BLANEY

Born in Nebraska July 7, 1893. Appointed from Nebraska. 2nd Lieut. A. S., July 1, 1920; 1st Lieut., July 1, 1920; Accepted, Oct. 12, 1920.

In Federal Service Other Than the Permanent Establishment—2nd Lieut. Inf. Sec., O.R.C., Nov. 27, 1917; Accepted, Nov. 27, 1917; 2nd Lieut. Av. Sec., Sig. O.R.C., Nov. 27, 1917, Accepted, Feb. 27, 1918; Vacated, Oct. 12, 1920.

Service—He was on duty at Leon Springs and Kelley Field, Tex., from Dec. 15, 1917, to Jan. 5, 1918; at Post Field, Fort Sill, Okla., to Jan., 1919; at Barron Field, Tex., to March, 1919; at Post Field, Fort Sill, Okla., March 29, 1919, to June 23, 1919; with 2nd Aero Sqd., Rockwell Field, Calif., to Nov. 28, 1919; enroute to and on duty in Philippine Islands, Fort Mills and Camp Stotsenburg and at Manila, P. I., to Dec. 10, 1921; enroute to the United States, via Europe (served in Germany Feb. 12 to April 23, 1922) to June 7, 1922; on duty at Mitchel Field, N. Y., to date of death. He was killed in airplane accident at Hartford, Conn., Nov. 12, 1922.

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Changes in Stations—The Adjutant General's Office announces the following changes in station of Air Service units.

Photo Section No. 11, from Schofield Barracks, Hawaii, to Luke Field, Hawaii.

Air Intelligence Section No. 11 from Schofield Barracks, Hawaii, to Luke Field, Hawaii.

Naval Aviation

Naval Mission to Brazil—At the request of the Brazilian Government made on July 29, 1922 to the government of the United States an agreement has been made to send a naval mission from the United States to Brazil. The purpose of this mission is to assist the Brazilian Navy Department in all matters that pertain to improvement in their naval service. In this task the mission will collaborate and work in conjunction with the officers of the Brazilian Navy.

The mission will be composed of sixteen officers and nineteen chief petty officers under the command of Rear Admiral C. T. Vogelgesang, U. S. Navy, and will sail for Rio de Janeiro on the Munson Line steamer leaving New York on Dec. 9, 1922.

Comdr. T. G. Ellyson, U.S.N., has been designated as the aviation member of the naval mission. Commander Ellyson is the first officer in the Navy to qualify as a pilot of aircraft, having received his early training under the Wright Brothers and Glenn Curtiss in 1911.

He has been actively identified with the organization and development of naval aviation in this country since its beginning and was the first pilot to be launched from a catapult in an airplane. Since the establishment of the Bureau of Aeronautics under the Navy Department, Commander Ellyson has been in charge of the Plans Division of the Bureau and will relinquish this post to go to Brazil early in December.

• • •

Tests of New Naval Plane—A special airplane trial board of naval officers will meet at Cleveland to test out a new naval spotting plane at the field of the Glenn L. Martin Co. builder of the plane. The new plane is said to have especial radio equipment suitable for keeping in constant communication with the bases when spotting for gun fire. The plane is known as type MO and is a three seater. It will be equiped with the recently developed naval spotting radio tube telegraph set.

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Commander Coman, Aide to Admiral Moffett—Comdr. V. K. Coman, U.S.N., has succeeded Comdr. William S. Giles, U.S.N., as aide to Rear Admiral William A. Moffett, Chief of the Bureau of Aeronautics, Navy Department.

Commander Giles has been ordered to see duty on the U.S.S. Utah (and not on the U.S.S. Delaware, as previously stated).

Naval Orders—Lieut. Arthur S. Judy (Med. Corps), det. Nav. Air Sta. San Diego, Calif.; to Nav. Hospital, Mare Island, Calif.

Lieut. Harry V. Baugh, det. Aircraft Sqds. Battle Fleet; to Nav. Air Sta. Pensacola, Fla.

Lieut. Vernon F. Grant, det. Aircraft Sqds. Battle Fleet; to Nav. Air Sta. Pensacola, Fla.

Lieut. j. g. Earle P McKellar, det. Aircraft Sqds., Battle Fleet; to Nav. Air Sta. Pensacola, Fla.

Lieut. Charles P. Burke, det. Aircraft Sqds. Battle Fleet; to Nav. Air Sta. Pensacola, Fla.

Lieut. Harold B. Grow, det. Aircraft Sqds. Battle Fleet; to Bu. Aero., Navy Dept.

Lieut. James A. Hickey, det. U. S. Helium Production Plant, Fort Worth, Tex.; to Mare Island Navy Yard, Calif.

Lieut. j.g. Robert E. Davenport, det. U.S.S. Alleghany; to Helium Production Plant, Fort Worth, Tex.

Lieut. William S. Leavenworth (Med. Corps), det. Nav. Air Sta. Coco Solo, C. Z.; to U.S.S. Quail.

Comdr. William J. Giles, det. Bur. Aer., Navy Dept.; to U.S.S. Utah, as executive officer.

Lieut. j.g. Cecil F. Harper, det. Nav. Air Sta. Pensacola, Fla.; to Aircraft Sqds Battle Fleet.

Comdr. Henry V. Butler, det. Comdr. Aircraft Sqds. Battle Fleet, to manager, Navy Yard, N. Y.

Lieut. Robert Poole, det. Nav. Air Sta. Anacostia, D. C.; to Aircraft Sqds. Battle Fleet.

Lieut. George D. Price, det. Bu. Ord., Navy Dept.; to Aircraft Sqds., Scouting Fleet.

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Air Squadrons to Canal Zone—According to the schedule of employment of the Atlantic Fleet and Combined Fleets for the winter, the Aircraft Squadrons will go direct to the Canal Zone on Jan. 5, 1923.

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Death of Commander Chevalier—A heavy loss befell Naval Aviation on Nov. 12, when Lt. Comdr. Godfrey de. C. Chevalier, U.S.N., attached to the U.S.S. Langley, crashed on a two-seater observation plane near the County Club at Norfolk, Va., and subsequently died of his injuries in the naval hospital at Portsmouth. Commander Chevalier was en route from the Naval Air Station Hampton Roads to the aircraft carrier Langley, off Yorktown, when his plane sideslipped while in a bank and crashed out of control from a fairly low altitude. A board of naval officers has been designated to inspect the wreck of the machine and to report on the accident.

Godfrey de Courcelles Chevalier, one of the oldest fliers of the Navy was born at Providence, R. I., March 7, 1889, the son of Charles N. Chevalier and Elizabeth Ada (Waterhouse) Chevalier. After attending public school at Ogdensburg, N. Y., and Metford, Mass., he graduated from the Naval Academy at Annapolis, and was assigned to naval aviation in 1912 continuing this duty up to his death. He held Aero Club of America Seaplane Certificate No. 5, and Naval Aviator Certificate No. 7 and was also brevetted by the French a pursuit pilot. He saw nineteen months of foreign service during the late war in France and Great Britain, commanding first the naval air station at Dunkirk then the naval air station at Eastleight, England, and being eventually attached to the Grand Fleet to study British fleet aviation. His war honors included the Legion of Honor, the French Croix de Guerre and the U. S. Navy Distinguished Service Medal.

Coming Aeronautical Events

FOREIGN

1923

Dec. 15-Jan. 2 — ***8th International Aeronautic Exposition, Paris, France.***

June — ***International Aero Congress, London.***

N.A.A. on Safety Code Committee

In accordance with a request from the Sectional Committee for the American Aeronautical Safety Code, the National Aeronautic Association of U.S.A. has appointed its vice-president, Bernard H. Mulvihill, and Col. Harold E. Hartney, its general manager, as members of the Committee.

The Committee on Nov. 10 finished its deliberations at the U. S. Bureau of Standards, Washington, D. C., where together with various Sub-committees, it has been formulating an Aerial Safety Code which shall be a basis for the manufacturers and operators of aircraft in this country to introduce into their activities every measure of safety which engineering practice and operating skill can devise.

The Sectional Committee is headed by H. M. Crane, M. E., Chairman, formerly of the Wright Aeronautical Co.; Dr. J. S. Ames, Head of the Mechanical Engineering Department, Johns Hopkins University, and Member of the National Advisory Committee for Aeronautics, Vice Chairman; Dr. M. G. Lloyd, E. E., of the Bureau of Standards, Secretary; and Arthur Halsted, E. E., of the Bureau of Standards, Assistant Secretary. The representation on the Committee are prominent members of the following organizations:—

National Aeronautic Association of U.S.A., Inc., Manufacturers Aircraft Association, Aero Club of America, U. S. Bureau of Standards, Society of Automotive Engineers, American Society of Safety Engineers, U. S. Post Office Department, National Aircraft Underwriters Association, U. S. Weather Bureau, American Institute of Electrical Engineers, National Safety Council, Underwriters Laboratories, U. S. Coast Guard, Rubber Association of America, American Society of Mechanical Engineers, American Society for Testing Materials, U. S. War Department and the U. S. Forest Service.

The working out of the safety code has been placed in the hands of special Committees—viz.,

Sub-committee on Airplane Structure—Dr. E. P. Warner, Supervisor of Aeronautics, Massachusetts Institute of Technology, Chairman.

Sub-committee on Power Plant—George J. Mead, Wright Aeronautical Corp., Chairman.

Sub-committee on Equipment and Maintenance of Airplanes—Archibald Black, New York City, Aeronautical Engineer, Chairman.

Sub-committee on Lighter-than-Air Craft (Balloons, Airships, Parachutes)—Ralph H. Upson, Aeronautical Engineer, Detroit, Mich., Chairman.

Sub-committee on Airdromes and Traffic Rules (Landing Fields, Airports, Traffic Rules, Signals, Qualifications for Pilots)— Arthur Halsted, Associate Electrical Engineer, Bureau of Standards, Washington, D. C. Chairman.

This Committee has practically completed the codification of safety rules for all of the activities covered by the Sub-committees, which has been a monumental work, but will be undoubtedly the basis for complete cooperation between all agencies engaged in every phase of aeronautics in making air navigation safe, not only from the standpoint of the pilot, but of passengers and public and private property. It has been felt by all these engineering societies that a safety code should grow up with the development of the industry which can be used by aeronautical and operating companies, manufacturing companies, and even by municipalities and states in formulating regulations covering the manufacture and use of aircraft within their jurisdiction. In this way there will be uniform measures taken, rather than disjointed and conflicting laws, regulations and rules promulgated by forty-eight states, and no one knows how many municipalities.

Dutch Flying Regulations

Flying regulations of the Netherlands Government provide that the minimum altitude over closely inhabited areas is 400 meters (1312 ft.) All aircraft must always fly at such a height over towns or public gatherings as will permit of their landing outside of such areas in case of engine failure. No trick flying may be indulged in above closely inhabited areas or public gatherings.

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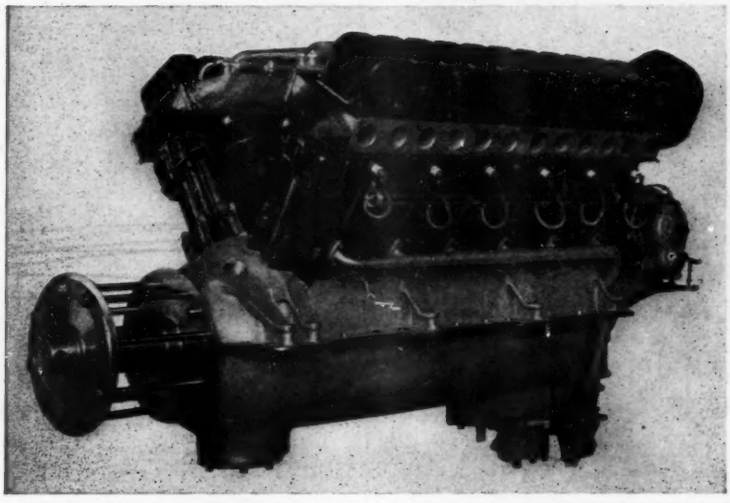

THE CURTISS D-12 ALL AMERICAN PURSUIT ENGINE

WINS

October 7, 1922--Fastest Speed in Curtiss-Marine Trophy Race in a Curtiss Type 18 Triplane flown by Lieut. Sanderson

October 14, 1922--First, Second, Third and Fourth in the Pulitzer Race in Army Curtiss planes flown by Lieuts. Maughan and Maitland, in Navy Curtiss planes flown by Brow and Williams

ESTABLISHES WORLD'S RECORDS

October 14, 1922--206 Miles Per Hour for Enclosed Circuit Made by Lieut. Maughan in Army Curtiss Racer

October 18, 1922--224.38 Miles Per Hour for One Kilometer, Made by Brig.-General Wm. Mitchell, Assistant Chief of the Air Service.

MAN HAS NEVER FLOWN SO FAST AND SO SAFELY

THE CURTISS AEROPLANE AND MOTOR CORPORATION
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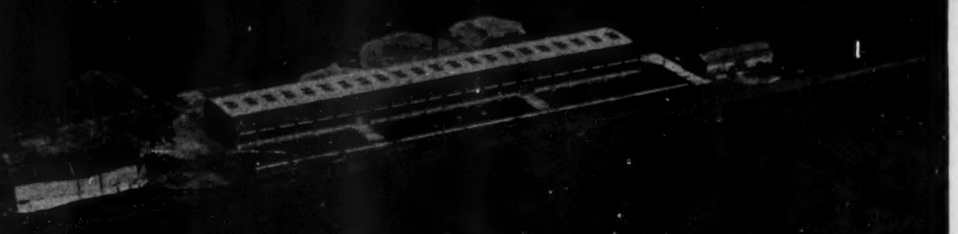

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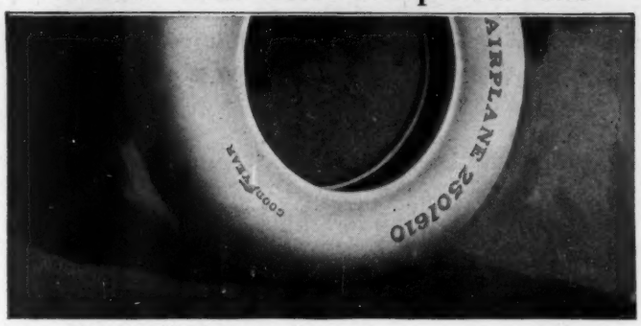

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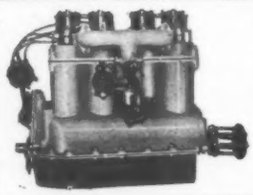
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